

Patent

**In the Specification**

Please replace the partial paragraph on page 27, lines 1-14 with the following new partial paragraph.

programmer, which are transmitted to the implant device. In response, at step 302, the implanted device retrieves the current set of control parameters being used by the device and, at step 304, transmits those control parameters back to the external programmer. At step 306, the current control parameters are displayed and a set of rapid optimization test parameters are automatically generated by the parameter optimizer controller (unit 250 of FIG. 6) of the external programmer based on the current values. In one example, the current control parameters are designated as a reference values and then sets of test parameters are generated based upon the reference values. The test parameters may, for example, represent a range of control parameters bracketing the reference parameter. For example, if the reference parameter represents the AV delay, the test values may specify various delay values that are slightly longer than or slightly shorter than the reference value.

Please replace the partial paragraph on page 27, lines 15-28 with the following new partial paragraph.

Three exemplary types of rapid optimization are described herein. In a first technique, pacing with test values alternates with pacing with reference values, with each applied for an evaluation period typically lasting between 5 and 12 seconds. In a second technique, no reference values are employed; rather the rapid optimization procedure cycles through a sequence of different test values. In a third technique, a gradient-based technique is employed in which pacing alternates between two sets of test parameters with the test parameters being adaptively adjusted. Herein, the application of a given set of different test parameters or pair of alternating test parameters[()]] corresponds to one "test phase". Accordingly, as will be explained more fully below, with the first technique, each test phase includes two evaluation

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periods--one in which test parameters are applied and one in which reference parameters are applied. With the second technique, each test phase includes only one evaluation period (in which test parameters are